

**Work Order ID 67237**

Monday, March 14, 2011 9:45:15 AM

Page 1

Item ID: D206-667-203BL

Accept

Revision ID:

Item Name: Crosstube Aft, Blue

Start Date: 3/14/2011 Start Qty: 1.00

Required Date: 3/25/2011 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: *CL*

Date: *11/03/14*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D206-667-243	<i>C</i>
--------------	----------

100

0.00



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy bluefile and create labels as per PPP D206-667-203 CHG003

*Sulovos*

110

0.00



CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

Memo

0.00

Bend tube as per Dwg D206-667-243 using CNC bender program D206-667-203

*DP*

*11-3-23*

120

0.00



QC

Quality Control

QC15- Crosstube Dimensional Check

Memo

0.00

*Sulovos*

*@*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Required Date: 3/25/2011 Req'd Qty: 1.00

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Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Crosstubes	0.00							
	Crosstubes								
Crosstubes	<b>Memo</b>	0.00							
	1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 and drill table DT8577 and tower holes #6 as per QSI0010 and as per Dwg D206-667-243. Drill all (3) top holes.								
	2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243 Check dimensions between holes on all four sides.								
	3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.								
	4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.								
	5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243								
	6-Drill Fwd rivet holes using drill Jig DT8789FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.								
	7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.								
	8-C'sink holes as per Dwg D206-667-243.								
	9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243 Inside of Cuff(Donot engrave on outside of tube)								
	10 -Deburr & Inspect for surface damage. Repair damage within limits as per								

DT 11.03.25  
SAD

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

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Dwg  
D206-667-243

140

Crosstubes Chemical Conversion

0.00

SAD 11-03-28



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Sulosh

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Sulosh



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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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205

Spray Painting per QSI005 4.2

0.00



SprayPaint

Memo

0.00

Spray Painting

Spray Painting:  
prime grey B: 115967  
spray paint delfleet blue B: 115985  
clear delfleet B: 117113

ml 11 04 04 ①

210

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

ET 11 - 04 - 05

220

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

1-Install nut plates as per Dwg D206-667-243.

ml 11 04 05

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230  Crosstubes	Skidtubes	0.00				<u>11</u>	<u>11</u>	<u>04</u>	<u>05</u> ⑦
Crosstubes	<b>Memo</b> 1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note: (3) top holes should be facing up. A/R Magnobond 6398: <u>116677 exp: 08/2011</u>  2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb <u>11.04.06</u> ①	0.00							
240  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	<b>Memo</b> 8/11/06/06	0.00				<u>40</u>			

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Customer:

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250  Packaging Packaging	Pick Kit  Memo	0.00  0.00						11/4/85	
260  QC Quality Control	QC4- 100% Inspect kits for completeness  Memo	0.00  0.00						FD	
270  Packaging Packaging	Packaging  Memo Identify and pack for shipping as per PPP D206-667-203 Location: _____ PPP Rev: _____	0.00  0.00						Per 4/18	

W/O:		WORK ORDER CHANGES					
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Run Start



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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

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280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/4/11

MF

11-04-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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# Picklist Print

Monday, March 14, 2011 9:45:11 AM

Page 1

Work Order ID: 67237

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue



Start Date: 3/14/2011

Required Date: 3/25/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 10.10.29 now at chg003 DD ver:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D206-667-203TRN 		Manufactured	No			220	Each	6.0000	1	1			
Crosstube Turning Detail													

Location	Loc Qty	Loc Code
LG003	6	
65134	1	
66431	1	
66432	1	
67060	1	
67061	1	
67062	1	

D2873-043 		Manufactured	No			220	Each	38.0000	2	2			
Nut Plate Assembly													

Location	Loc Qty	Loc Code
LG	36	
65375	16	
66898	20	
ST	2	
60981	2	

D2873-045 		Manufactured	No			220	Each	36.0000	2	2			
Nut Plate Assembly													

Location	Loc Qty	Loc Code
LG	36	
60982	4	
63498	1	
65132	11	
65992	20	

11-3-23

11 04 05

11 04 05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67237



Parent Item: D206-667-203BL



Parent Item Name: Crosstube Aft, Blue

Start Date: 3/14/2011

Required Date: 3/25/2011

Start Qty: 1.00

Required Qty: 1.00

D2892-1

Manufactured No

230

Each

36.0000

2

2



Support



ml 11-04-05

## Location

## Loc Qty

## Loc Code

LG

36

41986

2

42785

18

62592

10

65717

6

D3595-063-450

Manufactured No

230

Each

73.4590

4

4



RUBBER CUSHION



ml 11-04-05

## Location

## Loc Qty

## Loc Code

LG

68.45897368

53775

5.97897368

58161

3.56

59580

0.12

61465

4.68

63960

10

65656

2.12

67067

42

ST415

5

64171

4

64300

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item Name: Crosstube Aft, Blue

Start Date: 3/14/2011

Required Date: 3/25/2011

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W10 Purchased

No

230

Each

122.0000

14

14



RIVET

*ml 11-04-05*

Location

Loc Qty

Loc Code

LG051

122

114245

2

115405

2

115881

16

116186

2

116767

100

MS21920-22

Purchased

No

230

Each

48.0000

4

4



Clamp(per MIL-DTL-8783C)

*ml 11-04-05*

Location

Loc Qty

Loc Code

LG050

48

114077

2

116207

46

AN5-10A-

Purchased

No

250

Each

210.0000

10

10



Bolt

*ml 11-04-05*  
*6/4/18 ①*

Location

Loc Qty

Loc Code

ST337

210

115589

50

115700

10

116704

50

116924

50

117010

50

10

*[Handwritten signature]*

W/O:		WORK ORDER CHANGES					
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Start Date: 3/14/2011

Required Date: 3/25/2011

Start Qty: 1.00

Required Qty: 1.00

AN5-32A

Purchased

No

250

Each

131.0000



Bolt



14  
11/4/8 SP

Location

Loc Qty

Loc Code

ST340

131

115016

21

115108

50

115589

60

4

AN5-34A

Purchased

No

250

Each

80.0000



Bolt



4  
11/4/8 SP

Location

Loc Qty

Loc Code

ST340

80

115835

20

116003

20

116704

20

117010

20

4

AN960JD516

NAS1149D0563J

Purchased

No

250

Each

34.0000



Washer



18  
11/6702 SP 11/4/8

Location

Loc Qty

Loc Code

ST298

34

103694

18

107534

12

109287

4

W/O:		WORK ORDER CHANGES					
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Required Date: 3/25/2011

Start Qty: 1.00

Required Qty: 1.00

MS21042L5

Purchased

No

250

Each

966.0000



Nut



5 4

11/4/85

Location

Loc Qty

Loc Code

ST300

966

114813

26

115594

244

116105

496

116548

200

4

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

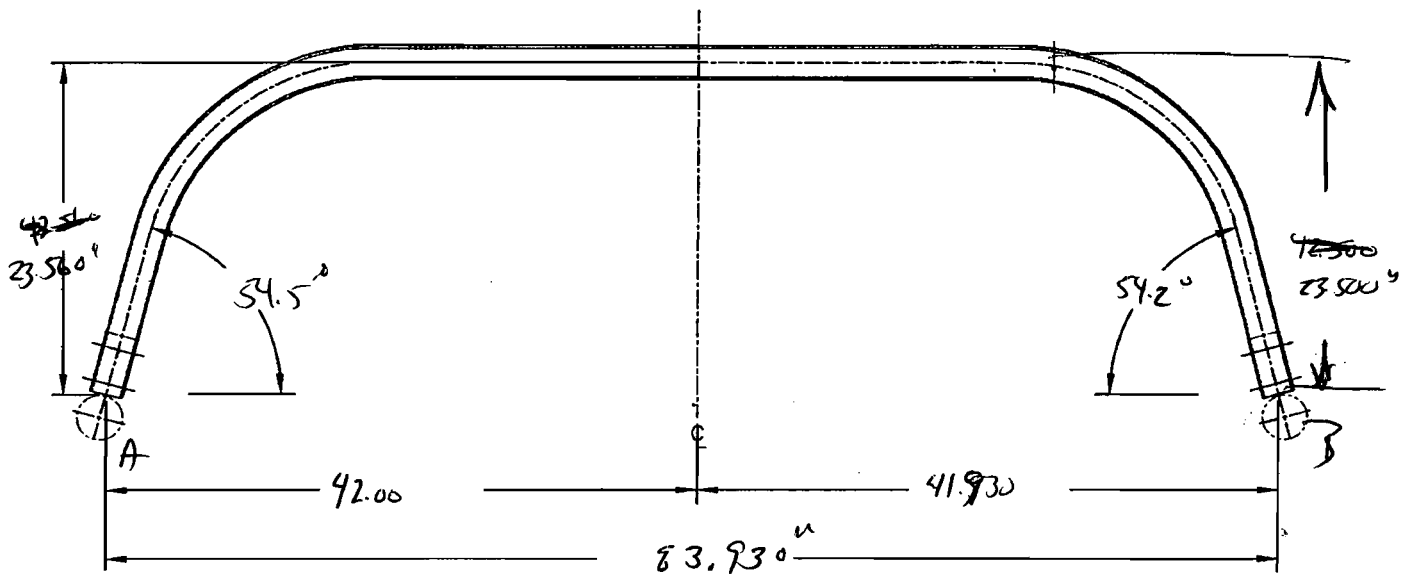
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<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	67237
<b>Description:</b> Crosstube High Aft (206L)		<b>Part Number:</b>	D206-667-203
<b>Inspection Dwg:</b> D206-667-243 <b>Rev:</b> C		<b>Page 1 of 1</b>	

Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.1



Comments

QC15 Inspection	S
Date	u/07/23

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.11.17	Dwg Rev updated	KJ	
C	09.12.14	Dimensions update per Dwg Rev C	KJ	



Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B 4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

# **GENERAL NOTES:**

- 1) MATERIAL: MANUFACTURED FROM D6004-115  
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON  
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.  
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE  
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER  
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE  
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE  
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN.-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN  
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

CL 11/03/14

W10: 67237

RELEASED  
08/11/14

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	90	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. C D206-667-243 SHEET 1 OF 4 TITLE SCALE CROSSTUBE ASS'Y (206L HIGH AFT) NTS <small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	
DRAWN	RF		
CHECKED	CP		
MFG. APPR.	90		
APPROVED	11/03/14		
DE APPR.			
DATE	08.11.06		

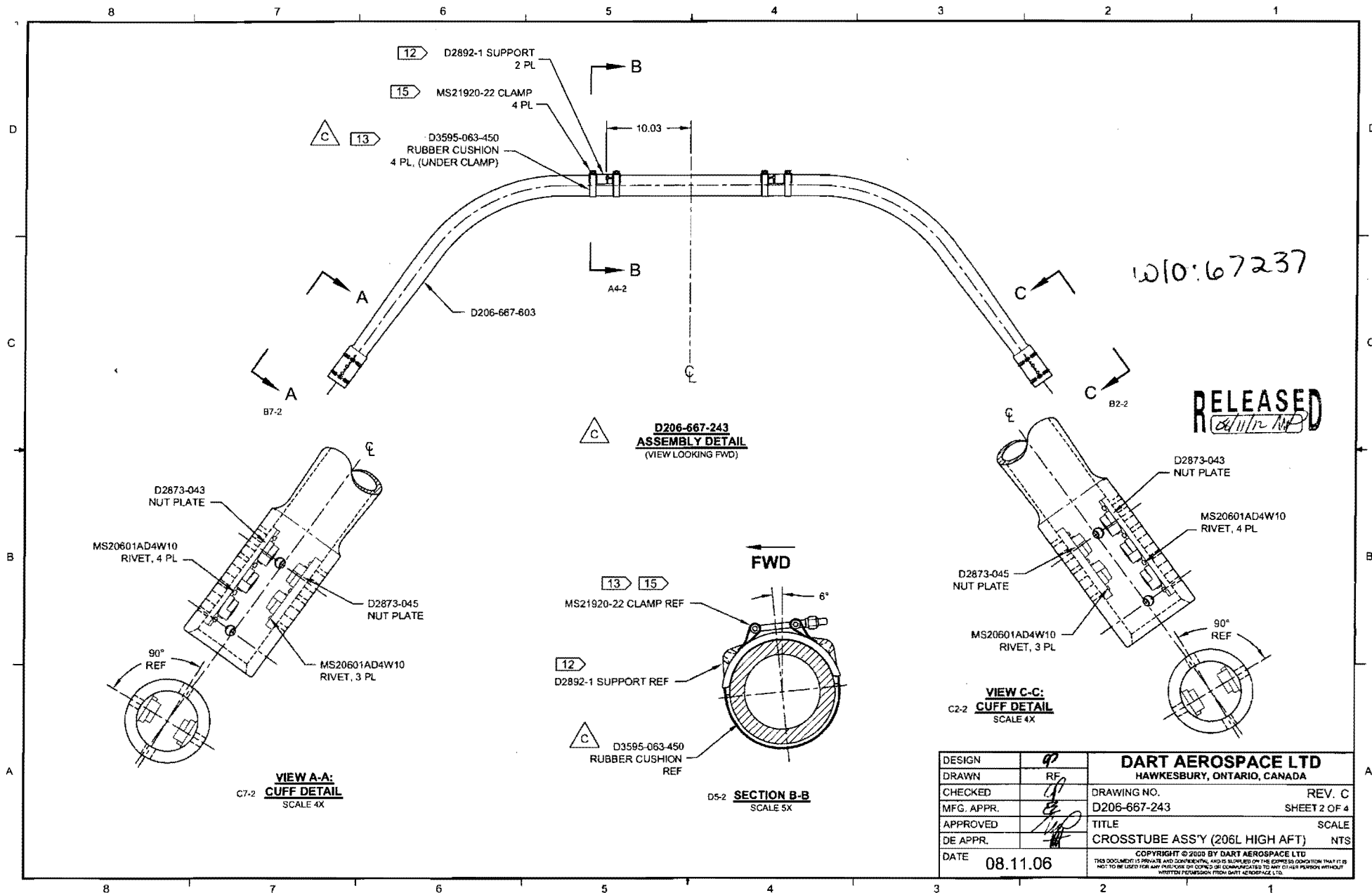
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

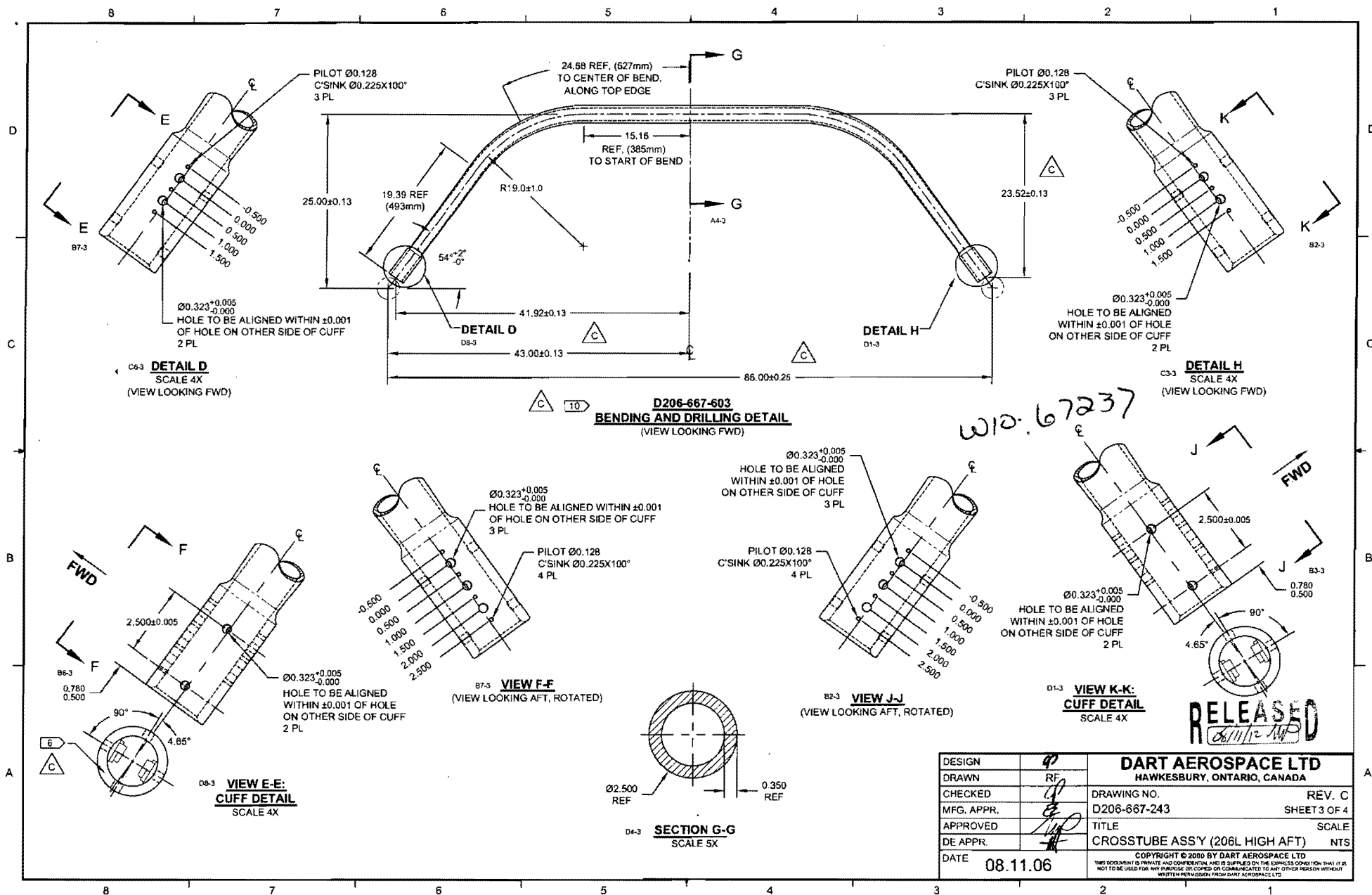
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

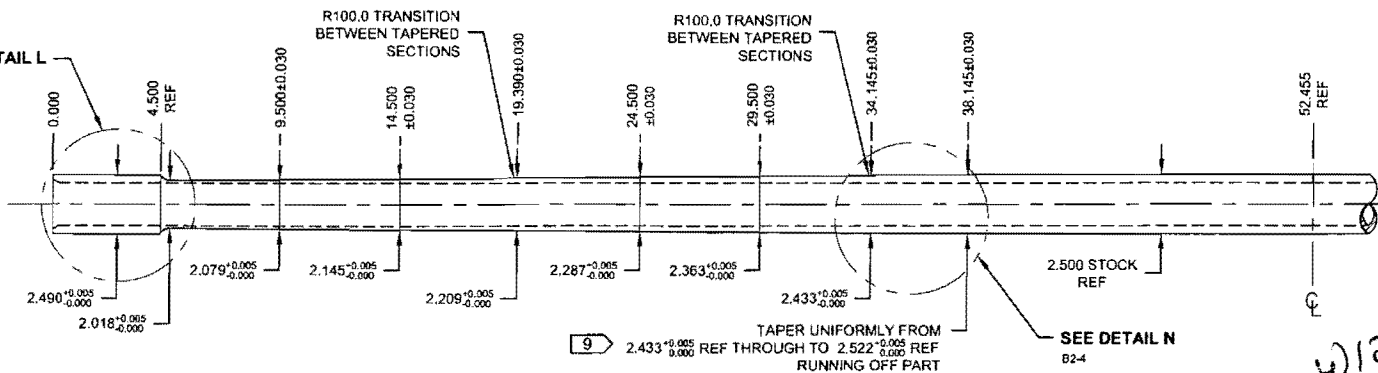
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

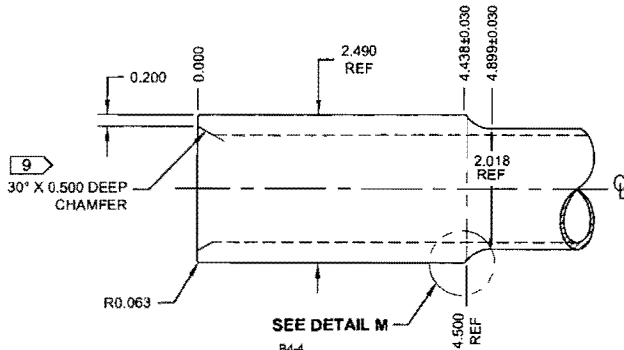
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

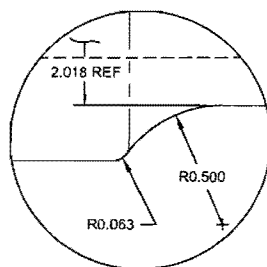
SEE DETAIL L  
B7-4



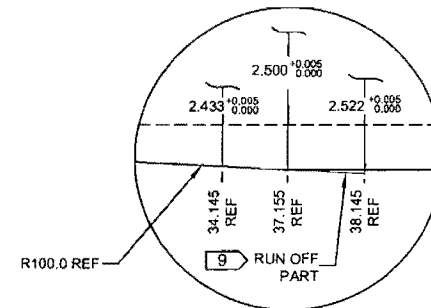
**C TURNING DETAIL**



C7-4 **DETAIL L: CROSSTUBE CUFF**  
NOT TO SCALE



B6-4 **DETAIL M: CUFF TRANSITION**  
NOT TO SCALE



C4-4 **DETAIL N: TAPER RUN-OFF**  
NOT TO SCALE

**RELEASED**  
08/11/12

DESIGN	9	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. C
MFG. APPR.	EP	D206-667-243	SHEET 4 OF 4
APPROVED	UP	TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DATE	08.11.06	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO13734

Purchase Order Date 3/29/2011

PO Print Date 3/29/2011

Page Number 1 of 2

Order From :

VC-ACU002

ACUREN  
2190 SPEERS ROAD  
OAKVILLE, ON L6L 2X8  
CA

Contact Name

Vendor Phone 613 931 1261

Vendor Fax 613 931 2777

Vendor Account Nbr

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

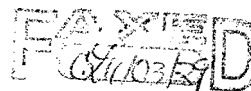
CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA



Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	62181	D3691-1 STUD	3/29/2011 Yes	11.00	Yours ppd	\$7.7272	\$85.00
		Special Inst:	LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2				
2	67351	D212-664-101 CROSSTUBE	3/29/2011 Yes	1.00	Yours ppd	\$85.0000	\$85.00
		Special Inst:	AS ABOVE				
3	67352	D212-664-101 CROSSTUBE	3/29/2011 Yes	1.00	Yours ppd	\$85.0000	\$85.00
		Special Inst:	AS ABOVE				

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable

Change Nbr: 1

Change Date: 3/29/2011



## LIQUID PENETRANT TEST REPORT

P- 12233

PAGE 1 OF 1

CLIENT VANT Aerospace DATE March 29-2011 TIME AM ☒ PM ☐  
ATTENTION LINDA LACELLE ACUREN JOB NO. 188-11-02066  
ADDRESS 1270 ABERDEEN ST. PO/WO No. 13734  
HAWKESBURY, ON. WORK LOCATION HAWKESBURY  
K6A 1K7 ACCEPTANCE STD. ASTM 1417/PSI-038 REV./DATE 2005  
PROJECT F.P.I. ON CROSS TUBES  
ITEM(S) EXAMINED (7)

JOB DESCRIPTION PROCEDURE NO. LT-002 REV./DATE 2008 TECHNIQUE NO. LT-002 REV./DATE 2008  
PART NO. — MATERIAL ALUMINE ALUMINUM THICKNESS VARIOUS  
SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION.  
CARRIED OUT ON 100% EXTERNAL SURFACE.

TEST DETAILS  
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED  
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 16459 ☒ OUTPUT > 1000  $\mu$ W/cm<sup>2</sup> ☐ AMBIENT < 2 fc  
PENETRANT 2467 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE  
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER LABINO  
DEVELOPER SK052 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE OCT-19  
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY 2011

TEST SURFACE  
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL  
SURFACE TEMPERATURE ☐ < -4°C/20°F ☐ -4°C/20°F TO 10°C/50°F ☐ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- (☐ METRIC ☐ IMPERIAL)

1	CrossTUBE:W.O. 67235	✓	INDICATIONS TO BE REMOVED
1	CrossTUBE:W.O. 67351	✓	
1	CrossTUBE:W.O. 67352	✓	
1	CrossTUBE:W.O. 67238	✓	ET 11 03 29
1	CrossTUBE:W.O. 67237	✓	
1	CrossTUBE:W.O. 67236	✓	INDICATIONS TO BE REMOVED
1	CrossTUBE:W.O. 67433	✓	INDICATIONS TO BE REMOVED

Scope of Services  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES  
CLIENT REPRESENTATIVE Zan Tiley DTR # E-63781  
TECHNICIAN (SIGNATURE): [Signature] REPORT REVIEWED BY:  
NAME (PRINT): Mike Johns NAME INITIALS  
CGSB LEVEL 2 SNT LEVEL — CGSB LEVEL — SNT LEVEL —  
CGSB REG. NO. 6606 CGSB REG. NO. —

REFERENCE ONLY

## 5.0 PARTS LIST

Item	Qty -011	Qty -013	Qty -015	Qty -101	Qty -201	Qty -103	Qty -203	Qty -105	Qty -205	Part Number	Description
	X									D206-667-011	SPACER BLOCK KIT
		X								D206-667-013	NUT PLATE KIT (-101/-103/-105/-203/-205)
			X							D206-667-015	NUT PLATE KIT (-201)
				X						D206-667-101	CROSSTUBE INSTALLATION, 206A/B HIGH FWD
					X					D206-667-201	CROSSTUBE INSTALLATION, 206A/B HIGH AFT
						X				D206-667-103	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH FWD
							X			D206-667-203	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH AFT
								X		D407-667-105	CROSSTUBE INSTALLATION, 407 HIGH FWD
									X	D407-667-205	CROSSTUBE INSTALLATION, 407 HIGH AFT
1				1						D206-667-141	CROSSTUBE ASSEMBLY, 206A/B HIGH FWD
2					1					D206-667-241	CROSSTUBE ASSEMBLY, 206A/B HIGH AFT
3						1				D206-667-143	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH FWD
4							1			D206-667-243	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH AFT
5								1		D407-667-145	CROSSTUBE ASSEMBLY, 407 HIGH FWD
6									1	D407-667-245	CROSSTUBE ASSEMBLY, 407 HIGH AFT
10				*2	*2	*2		*2		D2891-1	SUPPORT
11							*2			D2892-1	SUPPORT
12									*1	D2894-1	SUPPORT
13				*2	*2	*2		*2		D2856-400-694	ABRASION STRIP
14							*2		*2	D2856-400-773	ABRASION STRIP
15									*1	D2856-600-851	ABRASION STRIP
16				*4	*4	*4		*4		MS21920-20	CLAMP
17							*4		*4	MS21920-22	CLAMP
18									*2	MS21920-24	CLAMP
19				4	4	4		4		AN5-32A	BOLT
20							4		4	AN5-34A	BOLT
21				4	4	4	4	4	4	MS21042L5	NUT (OR MS21042-5)
22				8	8	8	8	8	8	AN960JD516	WASHER
23									*2	D3190-1	CHAFING SHIELD
30	8									AN4-6A	BOLT
31	8									AN4-7A	BOLT
32	16									AN960JD416	WASHER
33	2									D3193-041	SPACER BLOCK ASSEMBLY
40		2		*2		*2	*2	*2	*2	D2873-043	NUT PLATE
41		2		*2		*2	*2	*2	*2	D2873-045	NUT PLATE
42			2		2					D2872-043	NUT PLATE
43			2		2					D2872-045	NUT PLATE
44		10		10		10				AN5-7A	BOLT
45		10	10		10		10	10		AN5-10A	BOLT
46		4	4	4	10	4		4		AN5-30A	BOLT
47		4					4		4	AN5-32A	BOLT
48		18	18	10	12	10	10	10	10	AN960JD516	WASHER
49		4	4		6					MS21042L5	NUT (OR MS21042-5)

\*REFERENCE ONLY. PARTS ARE INCLUDED IN D206-667-141/241/143/243, &amp; D407-667-145/245 ASSEMBLIES ABOVE

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Revision: C

Date: 05.07.26